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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/537,001	EASWAR ET AL.	
	Examiner	Art Unit	
	Yogesh K. Aggarwal	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

1. Applicant's arguments filed 05/13/2005 have been fully considered but they are not persuasive.

Examiner's response:

2. Applicant argues with respect to claim 1 that a single embedded bitstream is used to transmit data for a single image in Taubman, therefore multiple embedded bitstreams are used in Taubman to transmit data for multiple images. Thus, because multiple embedded bitstreams in Taubman are not equivalent to a plurality of layers recited in claim 1, Taubman fails to teach or suggest "a plurality of layers suitable for progressive transmission to a target device, wherein a layer includes a subset of the bitplanes of the first band," as recited in claim 1. The Examiner respectfully disagrees. It was never contended by the Examiner that multiple embedded bitstreams in Taubman are equivalent to a plurality of layers. In the previous office action a plurality of layers have been read on the transform coefficients (generated by wavelet bands), which are, transmitted as embedded bitstreams (col. 1 lines 21-40). Taubman clearly states that these coefficients are described by bit-planes, and the most significant coefficient bits (that is, the coefficient bits conveying the most information) are transmitted first in a progressive by quality image transmission (col. 1 lines 55-59). Therefore if a bitstream is truncated during transmission the most significant coefficient bits corresponding to most-significant bitplanes are transmitted first to reconstruct a part of the image. As a matter of fact, in the Applicant's specification a base layer has been defined corresponding to bitplanes 1 through 4 of the lowest resolution level and so on (Pages 47 line 25 –Page 48 line 20, figure 5b). Thus the coefficients generated from wavelet bands and described by bitplanes (as in Taubman) are similar to the layers of a single

image. When they are truncated, they are equivalent to different layers being transmitted at a time corresponding to a singe image as described in Applicant's specification.

3. Applicant argues that if an embedded bitstream is truncated it is not the same as organizing the bands into a plurality of layers. As explained above, Applicant's specification describes a base layer corresponding to bitplanes 1 through 4 of the lowest resolution level and so on for other layers (Page 47 line 25 –Page 48 line 20, figure 5b). Similarly in Taubman, the transform coefficients (generated by wavelet bands) are transmitted as embedded bitstreams (col. 1 lines 21-40) and these coefficients are described by bit-planes, and the most significant coefficient bits (that is, the coefficient bits conveying the most information) are transmitted first in a progressive by quality image transmission (col. 1 lines 55-59). Therefore if a bitstream is truncated during transmission the most significant coefficient bits corresponding to most-significant bitplanes are transmitted first to reconstruct a part of the image. Thus the coefficients generated from wavelet bands and described by bitplanes (as in Taubman) are similar to the layers of an image. When they are truncated, they are equivalent to different layers being transmitted at a time described in Applicant's specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-13, 17-22, 28-35 and 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,067,383 to Taniguchi et al. in view of Taubman et al. (US Patent # 6,546,143).

[Claim 1]

Taniguchi discloses "A method for storing and transmitting image data between occasionally connected devices, the method comprising":

capturing an image at a sensor of a first device (col. 11 lines 49-50 fig. 1), storing the image as image data in a memory of the first device (col. 12 lines 33-35 fig. 4), separating the image data into separate color planes, according to a particular color space (col. 11 lines 50-52 fig. 1), transforming each of the planes into separate bands, based on frequency information present in each plane (col. 11 lines 52-54 fig. 1), quantizing each band of each of the planes to a particular bit depth (col. 11 lines 54-55 fig. 1), coding each band of each of the planes for compressing the image data (col. 11 lines 55-57),

Taniguchi fails to teach "wherein the separate bands include a first band with a first number of bit-planes, based on quality and resolution provided by each band at a certain bit depth, organizing the bands into a plurality of layers suitable for progressive transmission to a target device, wherein a layer includes a subset of the bit-planes of the first band and upon connection of the first device to a second device, transmitting a selected one of said plurality of layers from the first device to the second device". However Taubman teaches that it is well known and used in the art to have separate bands include a first band with a first number of bit-planes and based on quality and resolution provided by each band at a certain bit depth, organizing the bands into a plurality of layers suitable for progressive transmission to a target

device and upon connection of the first device to a second device, transmitting a selected one of said plurality of layers from the first device to the second device wherein a layer includes a subset of the bit-planes of the first band (col. 1 lines 35-67, col. 2 lines 1-2). Taubman also states that the embedded bit-streams (layers) can be truncated during transmission of the image data (col. 1 lines 40-43), which means that different layers are composed of a subset of first number of bit-planes. [The wavelet transform coefficients (frequency bands) can be transmitted in an "embedded bit-stream" is being read as organizing the bands (wavelet transform coefficients) into layers (embedded bit-stream). These "embedded bit-streams" (layers) are based upon a progressive transmission of quality or resolution as taught in Taubman reference (col. 1 lines 55-65)].

Therefore taking the combined teachings of Taniguchi and Taubman it would have been obvious to one skilled in the art at the time of the invention to have been motivated to organize the wavelet bands (sub-bands) of Taniguchi into a plurality of layers ("embedded bit-stream") as taught in Taubman for progressive transmission to a target device based upon the quality and resolution of the bands. The benefit of doing so would be so that the images can be transmitted based upon quality or resolution progressively and therefore utilizing the available bandwidth efficiently as taught in Taubman (col. 1 lines 55-65).

Claim 2 recites "... wherein said particular color space comprises YUV color space" reads on Taniguchi (col. 13 lines 30-32 fig. 4).

Claim 3 recites "... wherein said particular color space comprises RGB color space" reads on Taniguchi (col. 13 lines 28-30 fig. 4).

Claim 4 recites, "... wherein the image data stored in memory comprises mosaic image data" " reads on Taniguchi (col. 13 lines 28-30 fig. 4).

[RGB color space can be a stored in a Bayer pattern, which forms the mosaic data].

Claim 5 recites "...wherein said step of organizing the bands into a plurality of layers comprises: organizing the bands into a plurality of layers of a quality/resolution matrix" reads on Taubman (col. 1 lines 55-65).

Claim 6 recites "...wherein said step of organizing the bands into a plurality of layers comprises: "selecting one or more particular bands to comprise a given layer, each band being represented to a particular bit depth," reads on Taubman (col. 1 lines 60-67, col. 2 lines 1-2).

Claim 7 recites "...wherein each layer stores image data for rendering the image at a particular resolution and a particular quality" reads on Taubman (col. 1 lines 55-65).

Claim 8 recites "...wherein a first layer of said plurality of layers stores information pertaining a rendering the image at low resolution and low quality" reads on Taubman (col. 1 lines 40-49).

Claim 9 recites "...wherein said first layer comprises a subset selected from the smallest ones of the bands" reads on Taubman (col. 1 lines 40-49).

Claim 10 recites "...wherein said first layer stores each band of said subset only to a particular bit depth" reads on Taniguchi [When the bands are quantized as taught in Taniguchi (col. 11 lines 54-55 fig. 1) they have a particular bit-depth so that each the first layer which contains a subset of the bands up to a particular bit-depth].

Claim 11 recites, "...Wherein each layer includes information from all color planes," [Because the image is separated into RGB or YUV color plane which are then wavelet

transformed into different bands and bands are organized into layers so each layer (embedded bit-stream) can have bit-planes belonging to all the color spaces i.e. RGB or YUV].

Claim 12 recites, "...wherein the layers are interdependent [Because the layers (embedded bit-stream) in Taubman can be transmitted by truncating the bit-stream to get a low image quality so the layers are interdependent on each other i.e. one single layer is not enough to get a good image quality].

Claim 13 recites, "...wherein the layers are independent" [Because some layers are not transmitted without any degradation in image quality so they are independent of each other].

Claim 17 recites "...wherein said memory comprises a frame buffer for storing image data" reads on Taniguchi (col. 8 lines 27-30).

Claim 18 recites "...wherein said first and second devices are occasionally connected wirelessly" reads on Taniguchi (col. 1 lines 41-45).

[Various kinds of communication lines can be wirelessly connected devices]

Claim 19 recites "...wherein said first and second devices are occasionally connected over a wire line connection" reads on Taniguchi (col. 1 lines 41-45).

[Various kinds of communication lines can be devices connected over a wire line connection].

[Claim 20]

Taubman teaches a step of transmitting a selected one of said plurality of layers from the first device to the second device comprises initially transmitting a first layer of said plurality of layers; and upon reconnection of the two devices at a later point in time, transmitting subsequent layers of said plurality of layers". (col. 1 lines 40-49) [The user can truncate the bit-stream

(layers) transfer at any point in time if the image turns out to be undesirable and also reconnect later].

[Claim 21]

Taubman teaches transmitting of layers between two devices but do not explicitly teach disconnecting the two devices; at a later point in time, re-establishing a connection between the two devices; transmitting an additional layer of said plurality of layers while the two devices are connected; and thereafter disconnecting the two devices. However it would be obvious to one skilled in the art that if the receiving computer can order an image of specific resolution for preview purposes as taught in Taubman (col. 1 lines 60-67, col. 2 lines 1-2) then the two devices can be disconnected and at a later point in time, re-establish a connection between the two devices to transmit an additional layer of said plurality of layers while the two devices are connected and thereafter disconnect the two devices again.

[Claim 22]

Taubman teaches that second device controls, which layers, are transmitted (col. 2 lines 1-2).

[Claims 28 and 29]

Taniguchi and Taubman fails to teach explicitly, "... wherein said first device stores information indicating which layers have been transmitted to the second device and said second device has access to said information indicating which layers have been transmitted to the second device". However it would be obvious to one skilled in the art that the user at the first device or the second device have access to the information about which layers are transmitted.

[Claim 30]

Taniguchi and Taubman fails to teach explicitly, "... transmitting at least some of the layers to a third device; and thereafter retransmitting the layers at said third device to said second device". However it would be obvious to one skilled in the art that the layers can be transmitted and retransmitted between any number of devices.

[Claim 31]

Taubman teaches, "rendering the image at the second device upon receipt of a first one of said plurality of layers"(col. 2 lines 1-2).

[Claim 32]

Taubman teaches, "updating the rendering of the image at the second device upon receipt of subsequent ones of said plurality of layers"[col. 1 lines 60-69 teach "Progressive-by-resolution" that involves rendering the image depending upon ordering the coefficients embedded in the bit-stream according to resolution of the image].

[Claim 33]

Taubman teaches wherein layers are selected for transmission to first increase quality of the image that may be rendered at the second device (col. 1 lines 55-59).

[Claim 34]

Taubman teaches wherein layers are selected for transmission to first increase resolution of the image that may be rendered at the second device (col. 1 lines 60-67, col. 2 lines 1-2).

[Claim 35]

The examiner notes that each layer selected for transmission is dependent on only particular layers that have been previously transmitted because all the layers previously transmitted and the

layer, which is selected for transmission, are needed to render the resolution of the complete image.

[Claim 57]

Taubman teaches wherein different bands have different resolutions (col. 1 lines 30-67).

[Claim 58]

Taubman teaches that the truncation of the bit stream at any point of time (col. 1 lines 40-44). Therefore it would be inherent that a second band can have all the bitplanes of the second band.

[Claim 59]

See claim 22.

6. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi (US Patent No. 6,067,383) in view of Taubman et al. (US Patent # 6,546,143) as applied to claim 1 above in further view of Hoffman (US Patent # 5,761,655).

Re Claim 14, Taniguchi in view of Taubman fails to teach transmitting attribute information indicating basic features of the image as claimed. However these limitations are well known in the art and obvious as evidenced in Hoffman (col. 9 lines 15-20, col. 2 lines 55-57).

Therefore taking the combined teachings of Taniguchi, Taubman and Hoffman as a whole, it would have been obvious to one skilled in the art to have been motivated at the time of the invention to incorporate transmitting attribute information indicating basic features of the image. Doing so would allow the files to be easily searched as suggested by Hoffman (col. 3 lines 2-5).

[Claim 15]

Hoffman teaches ".... wherein said attribute information includes selected ones of width and height of the image, aperture and exposure time used to capture the image, analog gains of the sensor when the image was captured, and a timestamp for the image". (col. 2 lines 55-57). [This invention solves this problem of recognizing the image w.r.t size, which can be the width and height, age, which is the timestamp of the image, and any other way, which is being claimed].

[Claim 16]

Hoffman teaches ".... wherein said attribute information includes a thumbnail bitmap of the image". (col. 9 lines 15-2).

7. Claims 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,067,383 to Taniguchi et al. in view of Taubman et al. (US Patent # 6,546,143) and in further view of Ferriere (US Patent # 5,880,856).

[Claim 23]

Taniguchi in view of Taubman fail to teach "...wherein said step of organizing the bands into a plurality of layers includes: storing each layer as a record" as claimed. However these limitations are well known in the art and obvious as evidenced in Ferriere (col. 9 lines 45-48 figure 13). [Each row block is like a record].

Therefore taking the combined teachings of Taniguchi and Ferriere as a whole, it would have been obvious to one skilled in the art to incorporate the said step of organizing the bands into a plurality of layers including storing each layer as a record. Doing so would provide his minimizes storage space and also minimizes the recurring processing costs, which would

otherwise be necessary, to transform and arrange the image data prior to or during each transfer as suggested by Ferriere (Col. 9 lines 16-19 figure 13).

[Claim 24]

Ferriere teaches ".... wherein each record is stored as a file in a file system of the first device (Col. 9 lines 19-22 figure 13).

8. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi (US Patent No. 6,067,383), Taubman et al. (US Patent # 6,546,143), Ferriere et al (US Patent # 5,880,856) and in further view of Davis (US Patent # 6,615,224).

[Claim 25]

Taniguchi in view of Taubman and Ferriere fail to teach, "... storing a record directory for accessing a record for a particular layer". However these limitations are well known in the art and obvious as evidenced in Davis (col. 6 lines 32-35 fig. 6).

Therefore taking the combined teachings of Taniguchi, Taniguchi, Ferriere and Davis as a whole, it would have been obvious to one skilled in the art to have storing a record directory for accessing a record for a particular layer. Doing so would provide a method for deleting files on a UNIX file system, so that they may subsequently be undeleted, without any possibility of loss or damage (in the abstract).

[Claim 26]

The method of claim 25, wherein said record directory includes a directory entry storing a filename for each record (Davis col.6 lines 38-40)

[Claim 27]

The method of claim 26, Ferriere and Davis fails to teach that "... wherein said second device sets the filename of a record to NULL after that particular record has been transmitted to the second device". Official Notice is taken of the fact that both the concept and advantages of providing a second device that sets the filename of a record to NULL after that particular record has been transmitted are well known and expected in the art. It would have been obvious to have a second device that sets the filename of a record to NULL (or reset) after that particular record has been transmitted in order to indicate that the particular record has been fetched.

9. Claims 36-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taubman et al. (US Patent # 6,546,143) in view of Davis (US Patent # 6,615,224).

[Claim 36]

Taniguchi discloses a method for storing and transmitting image data from a source device to a target device, the method comprising separating the image data into separate color planes, according to a particular color space (col. 11 lines 50-52 fig. 1), transforming the color planes into a plurality of bands (col. 11 lines 52-54 fig. 1). Taniguchi fails to teach wherein each band from the plurality of bands including a plurality of bit-planes; partitioning said image information at the source device into a plurality of layers, based on resolution and quality criteria, wherein a layer includes at least a subset of bit-planes from two bands from the plurality of bands. However Taubman teaches a method for storing and transmitting image information for an image from a source device to a target device, the method comprising wherein each band from the plurality of bands including a plurality of bit-planes, partitioning said image information at the source device into a plurality of layers, based on resolution and quality criteria wherein a layer includes at least a subset of bit-planes from two bands from the plurality of

bands (col. 1 lines 35-67, col. 2 lines 1-2)[The wavelet transform coefficients (frequency bands) can be transmitted in an "embedded bit-stream" is being read as organizing the bands (wavelet transform coefficients) into layers (embedded bit-stream). These "embedded bit-streams" (layers) are based upon a progressive transmission of quality or resolution as taught in Taubman reference (col. 1 lines 55-65)] and connected to the target device, transmitting attribute information for the image (It would have been obvious to one skilled in the art that when the devices are connected they would transmit information which includes attribute information for an image). Taniguchi in view of Taubman fails to teach storing directory information for the image at the source device allowing access to individual ones of said plurality of layers. However Davis teaches that these limitations are well known and used in the art (Col.6, lines 38-40). Therefore taking the combined teachings of Taniguchi, Taubman and Davis as a whole it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have directory information for the image at the source device allowing access to individual ones of said plurality of layers. The benefit of doing so would be to provide a method for deleting files on a UNIX file system, so that they may subsequently be undeleted, without any possibility of loss or damage (in the abstract).

[Claim 37]

Taubman teaches wherein said target device initially selects a single layer for transmission that permits at least crude rendering of the image (col. 2, lines 1-2).

[Claim 38]

Taubman teaches wherein said step of transmitting selected ones of said plurality of layers includes: successively fetching layers that allow rendering of the image at increasingly

higher resolution. [Col. 1 lines 60-69 teach "Progressive-by-resolution" that involves rendering the image depending upon ordering the coefficients embedded in the bit-stream according to resolution of the image].

[Claim 39]

Taubman teaches wherein said step of transmitting selected ones of said plurality of layers includes: successively fetching layers that allow rendering of the image at increasingly higher quality (col. 1 lines 55-59).

Taubman teaches transmitting of layers between two devices but do not explicitly teach disconnecting the two devices; at a later point in time, re-establishing a connection between the two devices; transmitting an additional layer of said plurality of layers while the two devices are connected; and thereafter disconnecting the two devices. However it would be obvious to one skilled in the art that if the receiving computer can order an image of specific resolution for preview purposes as taught in Taubman (col. 1 lines 60-67, col. 2 lines 1-2) then the two devices can be disconnected and at a later point in time, re-establish a connection between the two devices to transmit an additional layer of said plurality of layers while the two devices are connected and thereafter disconnect the two devices again.

[Claim 40]

Taubman teaches transmitting of layers between two devices but do not explicitly teach occasionally connecting the two devices from time to time; and at each instance that the two devices are connected, transmitting at least one of said plurality of layers from the source device to the target device, until all layers have been transmitted. However it would be obvious to one skilled in the art that if the receiving computer can order an image of specific resolution for

preview purposes as taught in Taubman (col. 1 lines 60-67, col. 2 lines 1-2) then the two devices can be connected occasionally from time to time; and at each instance that the two devices are connected, transmitting at least one of said plurality of layers from the source device to the target device, until all layers have been transmitted.

[Claim 41]

Taubman teaches the two devices (server and client) can be connected via wireless communication medium; and while the two devices are connected via wireless communication medium (col. 11 lines 55-58)[Internet service can be provided via a wire-line or wirelessly], Taubman further teaches transmitting transmitting a first one of said plurality of layers from the source device to the target device (col. 2 lines 1-2).

[Claim 42]

Taubman teaches the two devices (server and client) can be connected via wire line communication medium; and while the two devices are connected via wire line communication medium (col. 11 lines 55-58)[Internet service can be provided via a wire-line or wirelessly]. The Examiner notes that the subsequent ones of said plurality of layers can be transmitted from the source device to the target device, until all layers have been transmitted when the receiving computer wants it.

[Claim 43]

The method of claim 36, wherein said first device includes an imaging device [The image on a computer can be taken with a digital camera or a scanner which are imaging devices].

[Claim 44]

The method of claim 36, wherein said second device includes a computer (Taubman, col. 2 lines 1-2).

[Claim 45]

Taubman discloses in figure 13, wherein said computer includes a selected one of a desktop computer and a server computer.

[Claim 46]

Taubman teaches wherein said computer includes Internet connectivity (col. 11 lines 55-58)

10. Claims 47, 49, 51, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi (US Patent No. 6,067,383), Ferriere et al (US Patent # 5,880,856) in view of Taubman et al. (US Patent # 6,546,143) and in further view of Davis (US Patent # 6,615,224).

[Claim 47]

A system providing a file format optimized for transmission of information between intermittently-connected devices, the system comprising:

a memory for storing image data; (Taniguchi figure 1 shows 7 as the code storage means), logic for separating the image data into separate color planes, according to a particular color space (col. 11 lines 50-52 fig. 1), logic for transforming each of the planes into separate bands (col. 11 lines 52-54 fig. 1), Taniguchi fails to teach a logic for partitioning said image data into successive layers, wherein each successive layer storing information that permits rendering of the image at increasingly higher resolution and/or increasingly higher quality and logic for storing said successive layers in a file format and logic allowing a destination device to control uploading of successive layers to the destination device. However Ferriere teaches that these

limitations are well known and used in the art (col. 4 lines 64-67 col. 5 lines 1-2, col. 9 lines 19-27).

said file format comprising a plurality of records, each record storing information for a single layer (col. 9 lines 45-48). [Each row block is like a record] and logic allowing a destination device to control uploading of successive layers to the destination device (col. 1 lines 48-50). [Because the user can terminate the transfer at any point in time if the image turns out to be undesirable which means that the second device i.e. computer can control which layers are transmitted].

Therefore taking the combined teachings of Taniguchi and Ferriere, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have a logic for partitioning said image data into successive layers, wherein each successive layer storing information that permits rendering of the image at increasingly higher resolution and/or increasingly higher quality and logic for storing said successive layers in a file format said file format comprising: a plurality of records, each record storing information for a single layer. The benefit of doing so would be so that the images can be transferred over low-speed transmission links such as telephone lines more efficiently as taught in Ferriere (col. 4 lines 43-46).

Taniguchi in view of Ferriere fail to teach wherein each band from the plurality of bands including a plurality of bit-planes; partitioning said image information at the source device into a plurality of layers, based on resolution and quality criteria, wherein a layer includes at least a subset of bit-planes from two bands from the plurality of bands. However Taubman teaches a method for storing and transmitting image information for an image from a source device to a target device, the method comprising wherein each band from the plurality of bands including a plurality of bit-planes, partitioning said image information at the source device into a plurality of

layers, based on resolution and quality criteria wherein a layer includes at least a subset of bit-planes from two bands from the plurality of bands (col. 1 lines 35-67, col. 2 lines 1-2)[The wavelet transform coefficients (frequency bands) can be transmitted in an "embedded bit-stream" is being read as organizing the bands (wavelet transform coefficients) into layers (embedded bit-stream). These "embedded bit-streams" (layers) are based upon a progressive transmission of quality or resolution as taught in Taubman reference (col. 1 lines 55-65)] and connected to the target device, transmitting attribute information for the image

Taniguchi, Ferriere in view of Taubman fail to teach a directory for accessing a record of a layer that is to be uploaded to a destination device. However these limitations are well known in the art and obvious as evidenced in Davis (col. 6 lines 32-40 fig. 6).

Therefore taking the combined teachings of Taniguchi, Ferriere, Taubman and Davis as a whole, it would have been obvious to one skilled in the art to have storing a record directory for accessing a record for a particular layer. Doing so would provide a method for deleting files on a UNIX file system, so that they may subsequently be undeleted, without any possibility of loss or damage (Davis, in the abstract).

[Claim 49]

The system of claim 46, wherein each record exists as a physical record corresponding to a file within a file system (Ferriere col. 9 lines 42-44).

[Each row block is like a physical record.]

[Claim 51]

The system of claim 46, wherein said directory is modified after uploading of a layer, for indicating that that layer has been successfully uploaded. Official Notice is taken of the fact that

both the concept and advantages of providing a modifying a directory to NULL are well known and expected in the art. It would have been obvious to modify a directory to NULL (or reset) after that particular directory has been transmitted in order to indicate that the particular record has been fetched or uploaded by the second device.

[Claim 52]

The system of claim 47, wherein each of the layers is a two-dimensional enhancement of the complete image (Ferriere, col. 6 lines 20-28).

11. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi (US Patent No. 6,067,383), Ferriere et al (US Patent # 5,880,856), Davis (US Patent # 6,615,224) in further view of Hoffman (US Patent # 5,761,655).

Re Claim 48, Taniguchi in view of Ferriere in further view of Davis fails to teach wherein said file format includes a header section storing attribute information for the image as claimed. However these limitations are well known in the art and obvious as evidenced in (Hoffman, col.18 lines 44-46 fig. 35A).

Therefore taking the combined teachings of Taniguchi in view of Ferriere in further view of Davis and Hoffman as a whole, it would have been obvious to one skilled in the art to incorporate wherein said file format includes a header section storing attribute information for the image Doing so would provide index node memory caching to minimize disk access as suggested by Hoffman (col. 18 lines 42-44).

12. Claims 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi (US Patent No. 6,067,383), Ferriere et al (US Patent # 5,880,856), Davis (US Patent # 6,615,224) in further view of Pratt (US PG-PUB 2001/0049693).

Re Claim 50, Taniguchi in view of Ferriere in further view of Davis fails to teach wherein each record exists as a logical record residing at a particular offset within a single binary object as claimed. However these limitations are well known in the art and obvious as evidenced in (Pratt, paragraph 33 and 46).

Therefore taking the combined teachings of Taniguchi in view of Ferriere in further view of Davis and Pratt as a whole, it would have been obvious to one skilled in the art to incorporate each record existing as a logical record residing at a particular offset within a single binary object. Doing so would provide a structure and method for storing chip data in database tables as BLOB as suggested by Pratt (Paragraph 11).

13. Claims 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,067,383 to Taniguchi et al. in view of Taubman et al. (US Patent # 6,546,143).

[Claim 53]

Taniguchi teaches a system providing a file format optimized for transmission of information between intermittently-connected devices, the system comprising a memory for storing image data; (Taniguchi figure 1 shows 7 as the code storage means), logic for separating the image data into separate color planes, according to a particular color space (col. 11 lines 50-52 fig. 1), logic for transforming each of the planes into separate bands (col. 11 lines 52-54 fig. 1). Taniguchi fails to teach a logic to partition said image data into a plurality of layers, wherein each of the particular layers includes information that permits rendering of the entire image, the plurality of layers being additive to render the image at increasingly better qualities and wherein a layer includes a subset of the bitplanes of the first band; a logic to allow a destination device to control uploading of successive layers to the destination device. However Taubman teaches that the

wavelet transform coefficients (frequency bands) can be transmitted in an "embedded bit-stream" is being read as organizing the bands (wavelet transform coefficients) into layers (embedded bit-stream). These "embedded bit-streams" (layers) are based upon a progressive transmission of quality or resolution as taught in Taubman reference (col. 1 lines 55-65). The embedded bit-streams (layers) can be truncated during transmission of the image data (col. 1 lines 40-43), which means that different layers are composed of a subset of first number of bit-planes.

[Claim 54]

Taubman teaches wherein better qualities comprising increasingly higher resolution, increasingly higher quality (col. 1 lines 55-56), and wherein each layer is a two-dimensional enhancement of the complete image (See figures 3 and 10).

[Claim 55]

Taubman teaches a first subset of layers to provide increasingly better quality at a first resolution and a second subset of layers to provide increasingly better image quality at a second resolution, larger than the first resolution (col. 1 lines 50-59).

14. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,067,383 to Taniguchi et al., Taubman (US Patent # 6,546,143), Ferriere (US Patent # 5,880,856) in view of Davis (US Patent # 6,615,224).

[Claim 56]

Taniguchi in view of Taubman teaches the limitations of claim 53 but fails to teach logic for storing said successive layers in a file format, said file format comprising a plurality of records, each record storing information for a single layer; and a directory for accessing a record of a

layer that is to be uploaded to a destination device; and wherein said directory is modified after uploading of a layer, for indicating that layer has been successfully uploaded. However Ferriere teaches logic for storing said successive layers in a file format, said file format comprising a plurality of records, each record storing information for a single layer (col. 9 lines 45-48 figure 13)[Each row block is read as a record]. Therefore taking the combined teachings of Taniguchi, Taubman and Ferriere, it would have been obvious to one skilled in the art at the time of the invention to have been motivated to have logic for storing said successive layers in a file format, said file format comprising a plurality of records, each record storing information for a single layer in order for the user to have ease of storage of different layers. Taniguchi, Taubman and Ferriere fail to teach, "a directory for accessing a record of a layer that is to be uploaded to a destination device; and wherein said directory is modified after uploading of a layer, for indicating that layer has been successfully uploaded". However Davis teaches that these limitations are well known and used in the art (col. 6 lines 32-40 figure 6). [Having a filename for each record is read as directory being modified].

Therefore taking the combined teachings of Taniguchi, Taubman, Ferriere and Davis as a whole, it would have been obvious to one skilled in the art to have storing a record directory for accessing a record for a particular layer. Doing so would provide a method for deleting files on a UNIX file system, so that they may subsequently be undeleted, without any possibility of loss or damage (Davis, in the abstract).

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K. Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

16. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)-272-7593. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA

DAVID L. OMETZ
PRIMARY EXAMINER